Why Hybrids? A Dollars and Sense look at Hybrid Vehicles

Presented by
Tony Han
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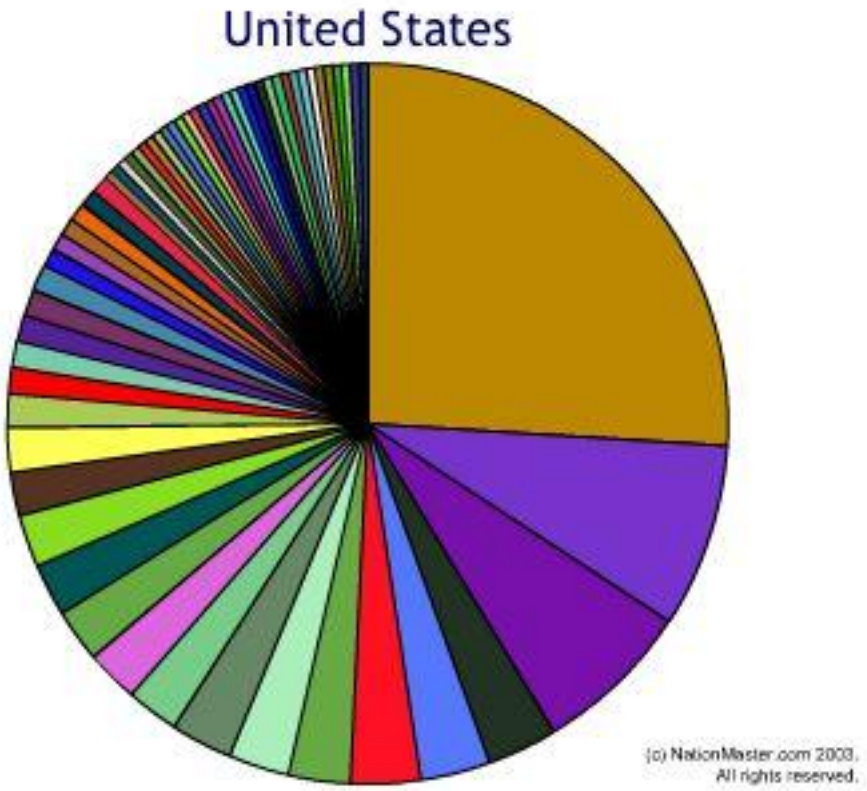
Hybrid Myths

- Hybrids will solve our energy crisis.
- Hybrids are too expensive.
- Hybrids need to charge overnight.
- Hybrids' batteries not reliable.
- Hybrids have a higher maintenance cost.
- Hybrids resale values not good.

Top 20 Oil Consuming Nations

SOURCE: Nationmaster.com

Showing latest available data.



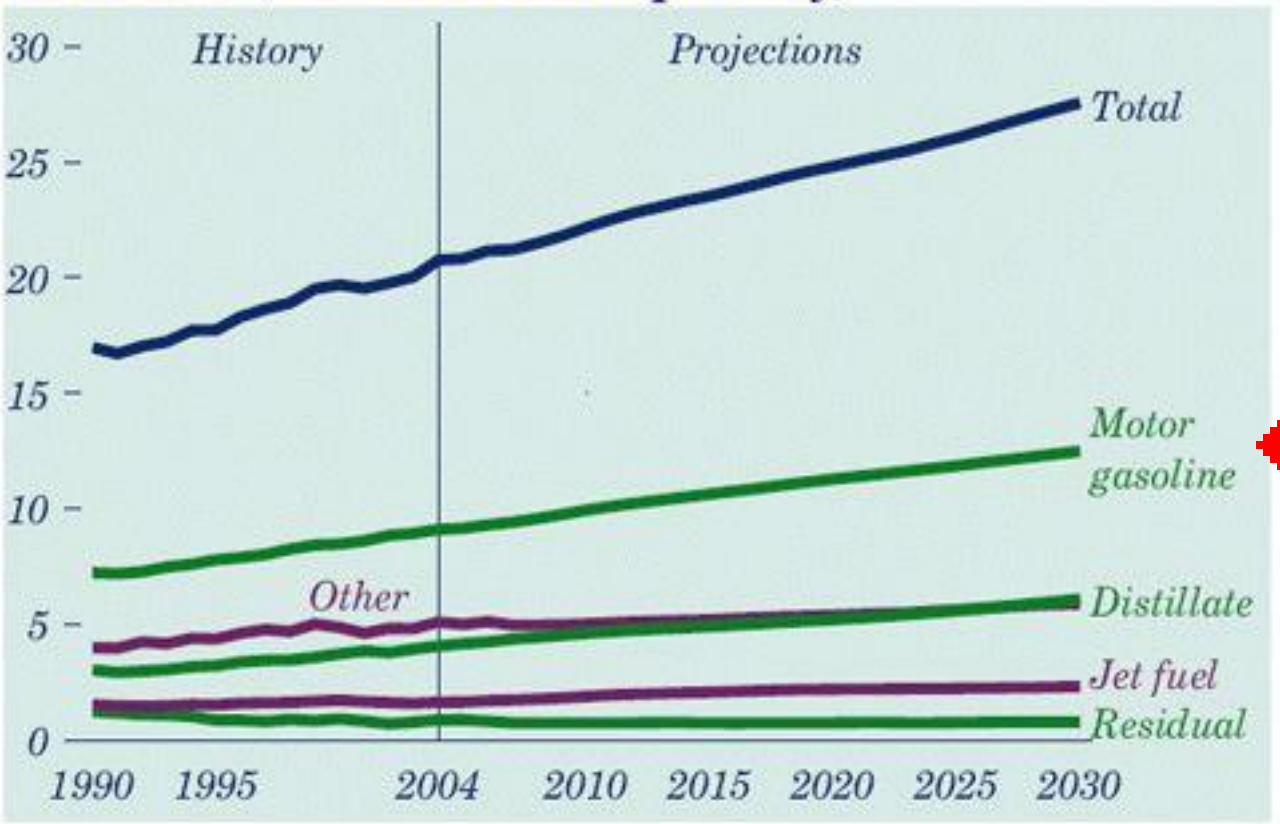
United States	25.2%
China	7.9%
Japan	6.8%
Germany	3.2%
Russia	3%
India	3%
Canada	2.8%
Korea, South	2.6%
Mexico	2.4%
France	2.4%
Italy	2.3%
Saudi Arabia	2.2%
United Kingdom	2.2%
Spain	1.9%
Iran	1.8%
Indonesia	1.4%
Taiwan	1.2%
Netherlands	1.2%
Thailand	1.1%
Australia	1.1%

#1	United States:	20,730,000 bbl/day
#2	China:	6,534,000 bbl/day
#3	Japan:	5,578,000 bbl/day
#4	Germany:	2,650,000 bbl/day
#5	Russia:	2,500,000 bbl/day

U.S. consumption across sectors

Report #:DOE/EIA-0383(2006)
Release date full report: February 2006
Next release date full report: February 2007

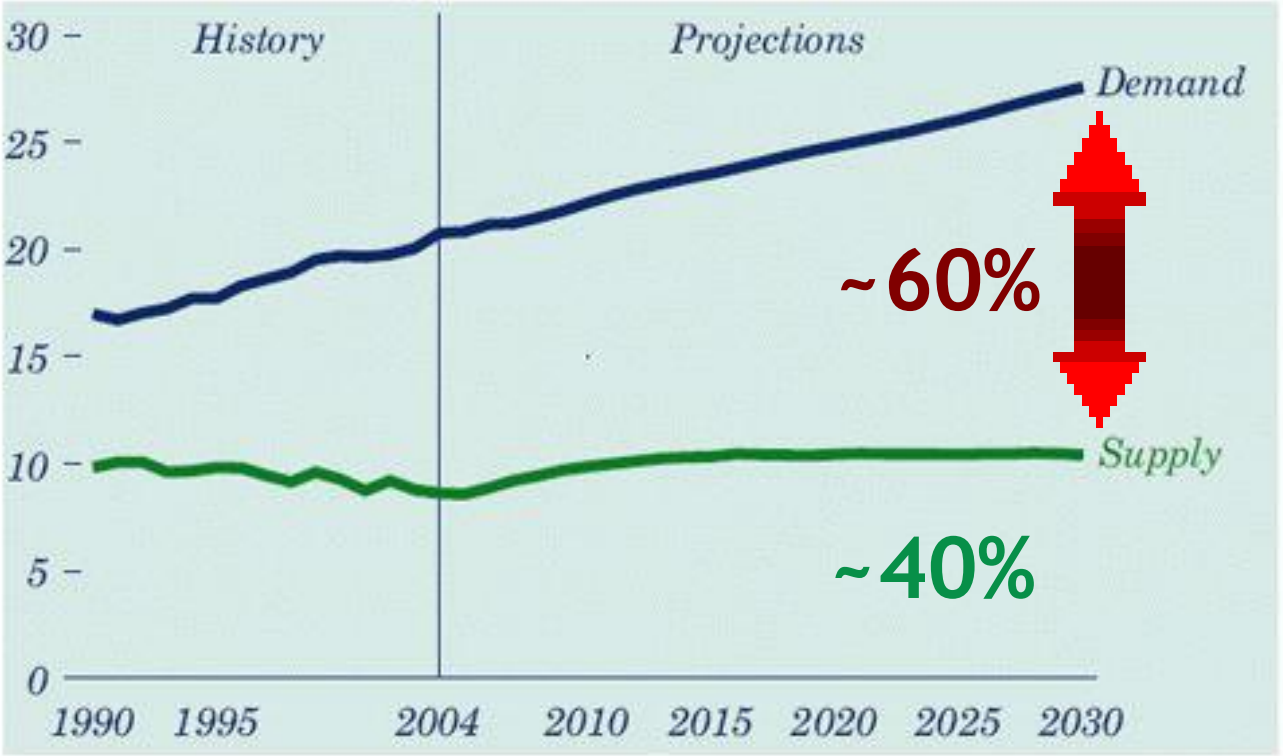
Figure 91. Consumption of petroleum products, 1990-2030 (million barrels per day)



Why import so much foreign oil?

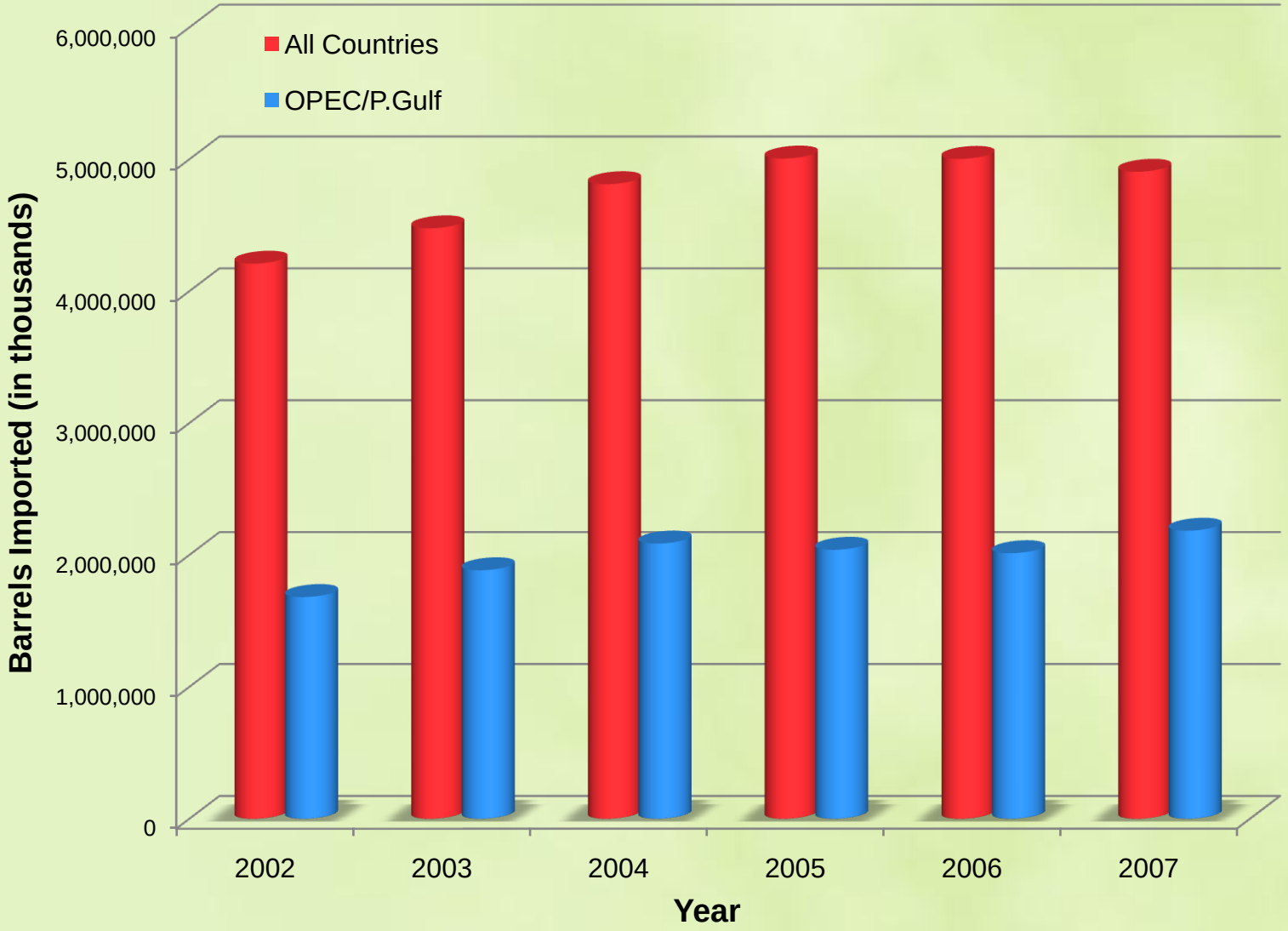
Report #:DOE/EIA-0383(2006)
Release date full report: February 2006
Next release date full report: February 2007

Figure 93. U.S. petroleum product demand and domestic petroleum supply, 1990-2030 (million barrels per day)



U.S. Foreign Oil Dependency

Source: Energy Information Administration (http://tonto.eia.doe.gov)



Metro areas with worst air pollution in 2007:

2007 Rank[1]	Metropolitan Statistical Areas
1	Los Angeles-Long Beach-Riverside, CA
2	Bakersfield, CA
3	Visalia-Porterville, CA
4	Fresno-Madera, CA
5	Houston-Baytown-Huntsville, TX
6	Merced, CA
7	Dallas-Fort Worth, TX
8	Sacramento--Arden-Arcade--Truckee, CA-NV
9	Baton Rouge-Pierre Part, LA
10	New York-Newark-Bridgeport, NY-NJ-CT-PA

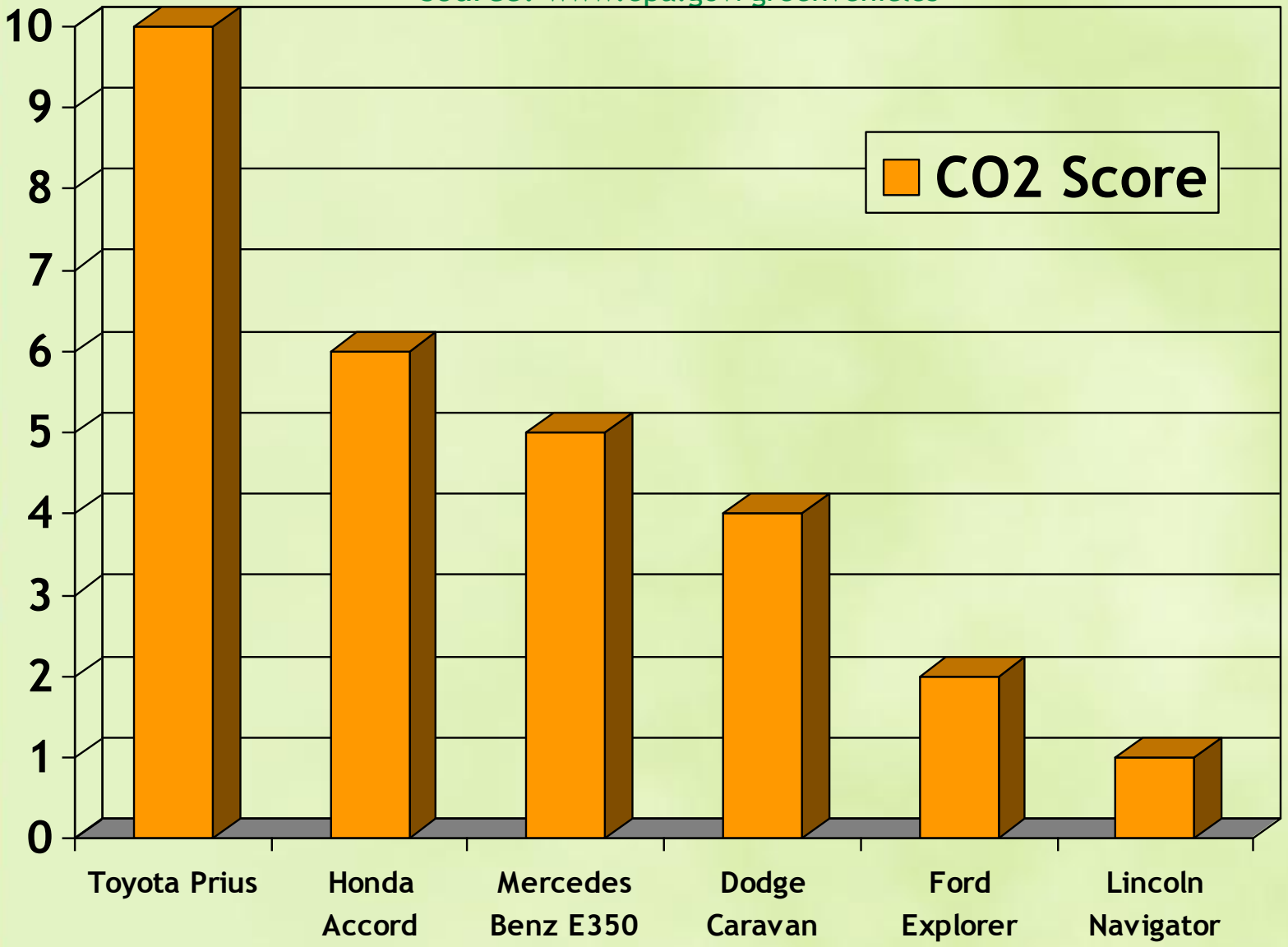
AMERICAN LUNG ASSOCIATION®
State of the Air: 2007

8.9%

County	Total Pop	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphy-sema	Cardiovascular Disease	Diabetes
BEXAR	1,518,370	423,511	156,233	37,692	74,270	43,988	17,549	317,563	76,094
BOWIE	90,643	21,736	11,970	1,935	4,734	2,840	1,248	22,069	5,226
BRAZORIA	278,484	76,508	24,776	6,809	13,689	8,104	3,089	56,969	13,800
BREWSTER	9,079	1,953	1,313	174	489	293	131	2,299	541
CALDWELL	36,523	9,751	4,159	868	1,823	1,083	448	8,025	1,912
CAMERON	378,311	128,363	40,064	11,424	16,954	10,037	4,150	73,921	17,546
COLLIN	659,457	181,775	39,999	16,178	31,965	18,683	6,190	119,191	29,488
DALLAS	2,305,454	656,796	191,724	58,455	110,979	65,235	23,942	444,178	107,812
DENTON	554,642	149,313	29,438	13,289	26,950	15,647	4,893	95,683	23,831

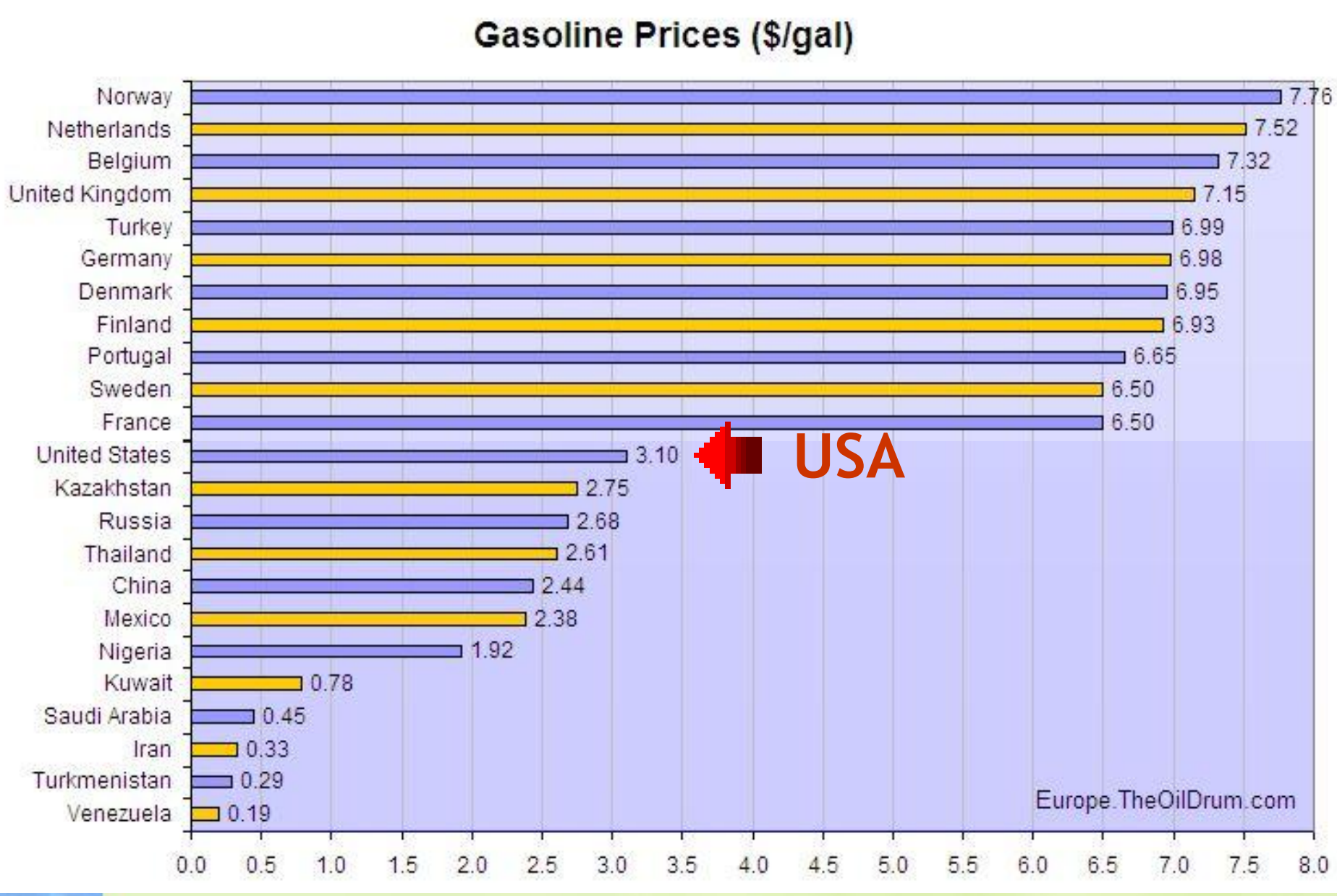
Vehicle Emissions (Score of 10 is cleanest)

source: www.epa.gov/greenvehicles



Global Gas Prices

Source: USAToday, March 2008



Do Hybrids Cost More to own?

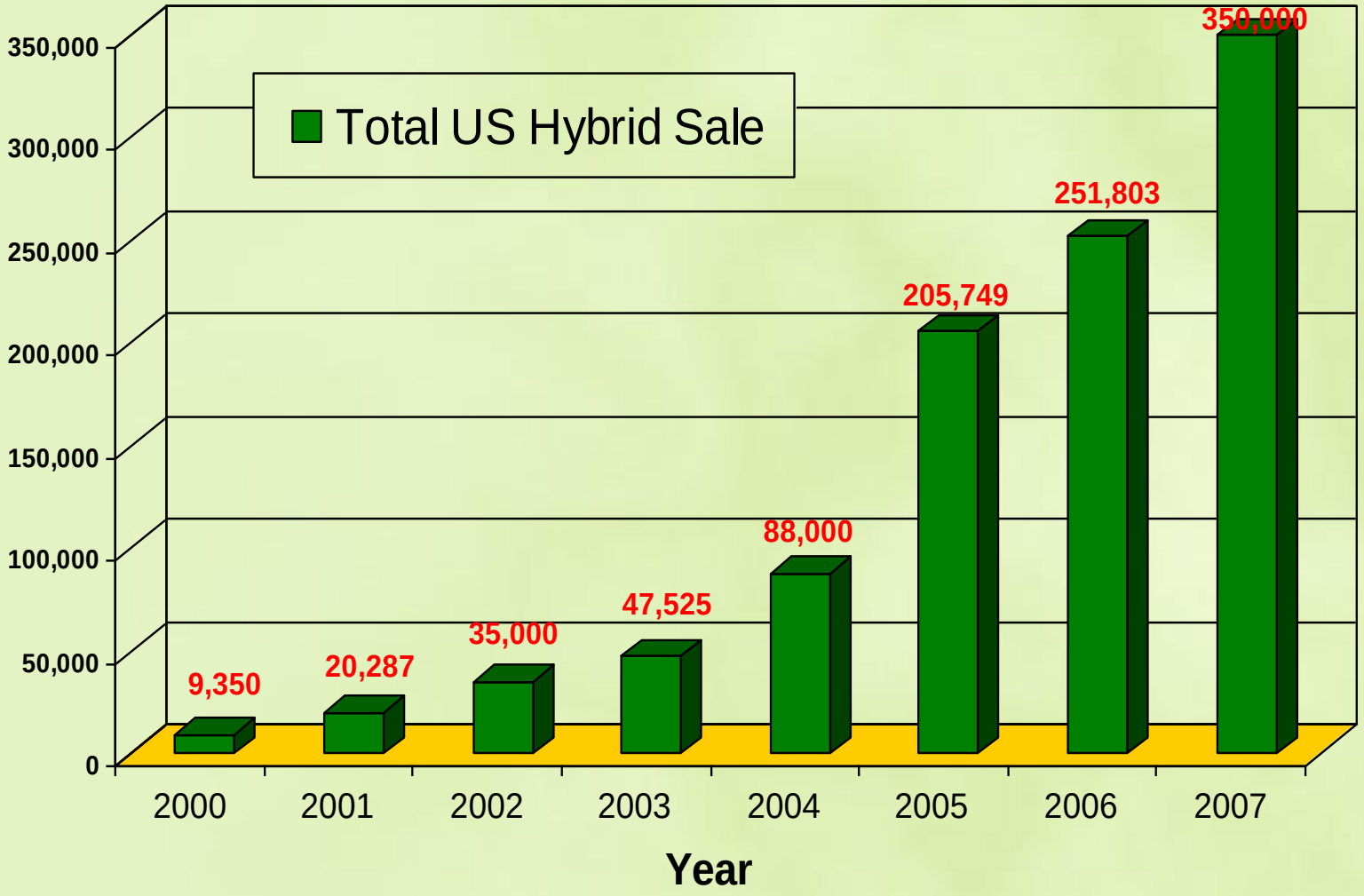
2004	2004	
Jeep Grand Cherokee V6 – 2WD	Toyota Prius	
MSRP $26,850	MSRP $21,829	MSRP Savings: $5,021
100,000	100,000	Life Time Miles
16*	42**	MPG city/highway
6,250.0	2,380	Gallons burned
$3.90	$3.90	Price per Gallon
$24,375	$9,282	Total Fuel Expenditure
	$15,093	Total Fuel Savings

* 08 EPA Combined ratings

** Real world results

U.S. Hybrid Sales

Source: Hybridcars.com & Greencarcongress.com



What are my Hybrid choices?

Fuel Economy numbers are City & Highway combined

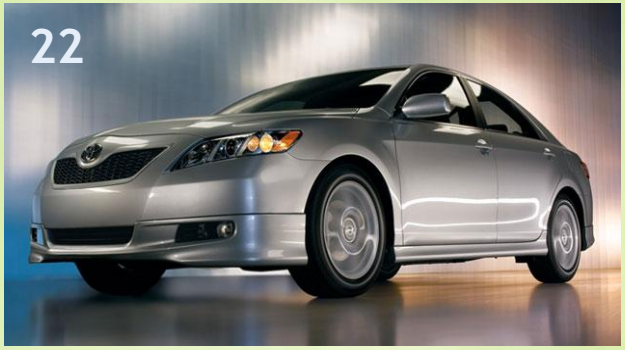
Source: fueleconomy.gov

Chevy Malibu (27mpg)

Saturn Aura (27mpg)

Honda Civic (42mpg)

Lexus LS 600h (21mpg)



Toyota Camry (34mpg)

Toyota Prius (46mpg)

Lexus GS 450h (23mpg)

Nissan Altima (34mpg)

SUV choices…

Fuel Economy numbers are City & Highway combined

Source: fueleconomy.gov

Lexus RX 400h (25mpg)

Ford Escape (28mpg)

Chevy Tahoe (21mpg)

Mazda Tribute (28mpg)

Toyota Highlander (26mpg)

Saturn Vue (28 mpg)

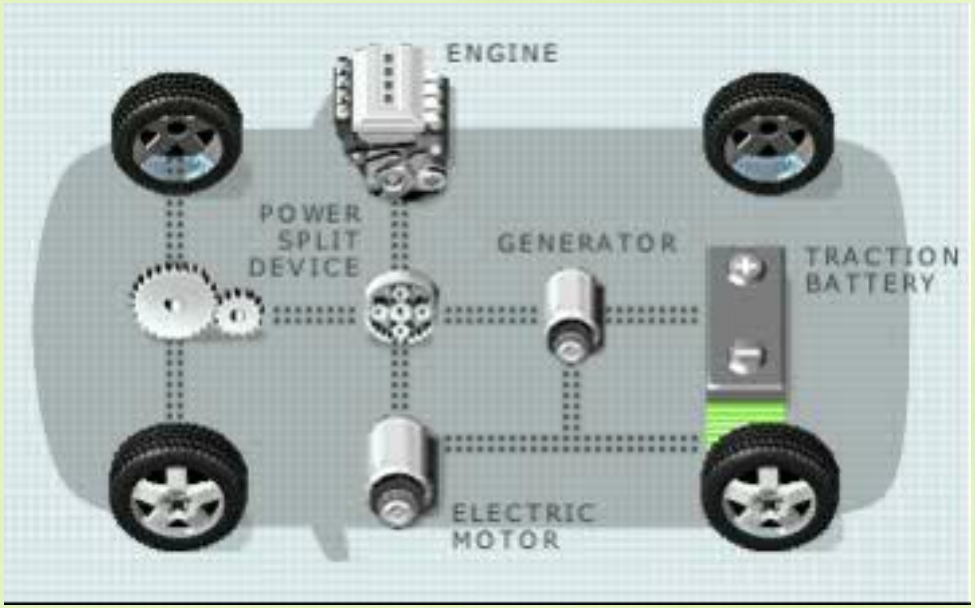
GMC Yukon (21mpg)

Mercury Mariner (28mpg)

How do Hybrids work?

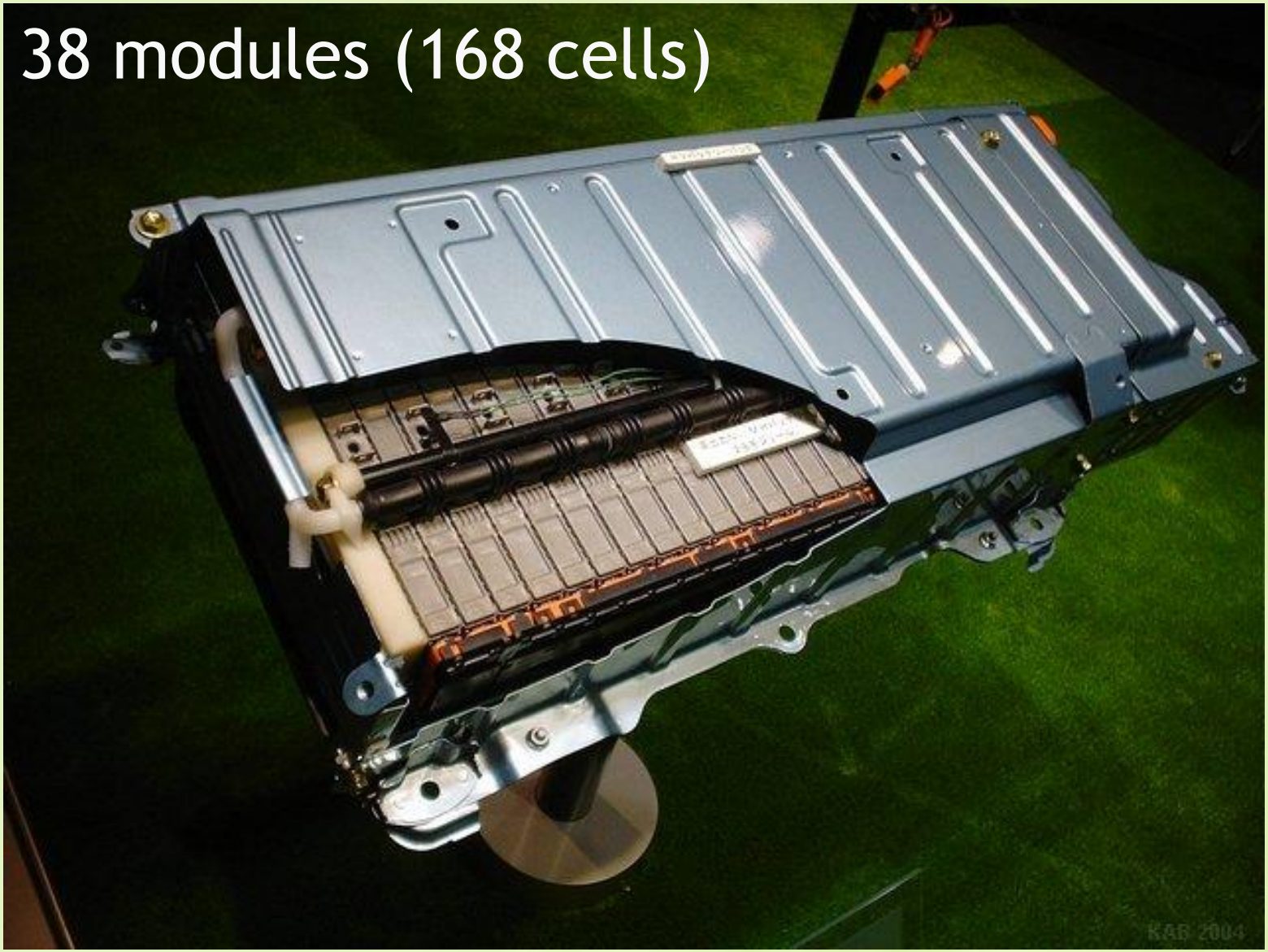
A look inside…

Hybrid Systems



Current Hybrid Battery (NiMh)

8 yrs/100,000 miles (Prius). Estimated replacement cost: ~$2,688



Mid-size Accomodation

So, How durable are hybrids?

Jesse Rudavsky from Hingham, MA.

- **2002 Prius**, (349,500 miles) with no hybrid component failure (battery included).

So, How durable are hybrids?

Andrew Grant, Taxi Driver in Vancouver, Canada:

- **2001 Prius***, 25 months 332,000 km (~200,000 miles) with no hybrid component, failure (battery included).
- **2004 Prius**, in service… 310,000 km (~186,000 miles) with no hybrid components failure (battery included).

* Toyota asked Andrew to give up his 2001 model after 25 months, in turn, they gave him a 2004 model. Toyota shipped the 2001 model back to Japan and examined every part of the car for wear and tear research.

Top 10 Best Resale Value

Expert • Independent • Nonprofit
ConsumerReports.org®

NEWLY LISTED
2004 Toyota Prius
$18,500 >> Save this Car

Photos

$18,500
Mileage: 43,538

Primary Information about this vehicle:
AT Car ID: AT-E722CE7 (?)

Price	$18,500
Mileage	43,538
Body Style	Sedan
Exterior Color	Tan
Interior Color	Tan
Engine	Hybrid
Transmission	Automatic
Drive Type	2 wheel drive - front
Fuel Type	Hybrid Gas/Electric
Doors	Four Door
VIN	JTDKB22UX40083389

BLUE BOOK® SUGGESTED RETAIL VALUE < WHAT'S THIS?

More Photos

Condition < WHAT'S THIS?	Value
Excellent	**$19,570**

Suggested Retail Value Assumes Excellent Condition... *More*

NEXT STEP: SEARCH LOCAL LISTINGS ›

Average Consumer Rating (151 Reviews) Read Reviews

★★★★★ **4.8** out of **5** Review This Vehicle

2004 Toyota Prius Example

Source: Edmunds.com & Kelly Bluebook

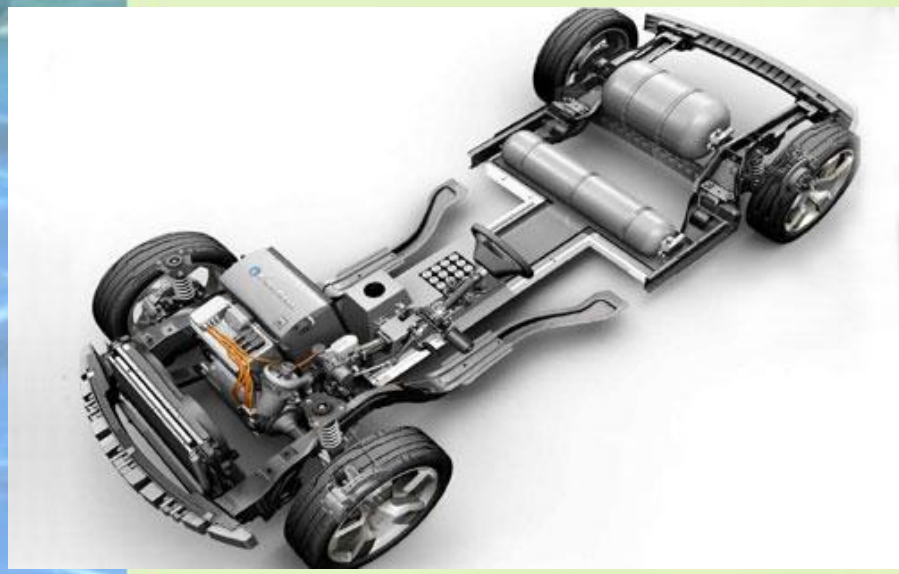
What about the Future?

21st Century Hot-Rodders

Zero Emission Future…Electric Sports Car

Tesla Motors (assembly by Lotus) 100% electric
0-60mph: ~4 seconds
Range: 250 miles on full charge
Charge Time: 3 hours
Price: $100,000 … available today …

Chevy Volt - 2010



CleanMPG.com

Wayne Gerdes can show you how to increase the Fuel Economy potential of your Hybrid and non-Hybrid automobile.

Hybrids…It's your Choice…

"The choices you make every moment of your life define how you experience it. You can choose to live by the same old patterns that may or may not serve you in the most positive way. The vehicle you drive is a direct case in point." Andrew Grant, Taxi Driver.

Thank you for listening!